

In the Claims

1. (Original) A method for use in a packet server, the method comprising the steps of:

receiving a stream of packets; and
determining that number of packets from the received packet stream that are lost over a time period;
determining a number of expected packets to be lost for the received packet stream in accordance with a random loss model; and
determining a burst ratio from the determined number of packets lost to the number of expected packets to be lost.

2. (Original) The method of claim 1 wherein the step of determining the number of packets lost determines an average length of observed bursts in the received packet stream over the time interval.

3. (Original) The method of claim 2 wherein the step of determining the number of expected packets to be lost determines an average length of bursts expected for a random loss packet-based network.

4. (Original) The method of claim 3 wherein the step of determining the burst ratio determines a ratio of the average length of observed bursts in the received packet stream over the time interval to the average length of bursts expected for a random loss packet-based network.

5. (Original) A method for use in a packet server, the method comprising the steps of:

receiving a stream of packets; and
determining a burst ratio for the received packet stream, wherein the burst ratio equals $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n - 1$ was found and β represents a probability of losing packet n if packet $n - 1$ was lost.

6. (Original) A method for use in a packet server, the method comprising the steps of:

receiving a stream of packets; and
determining a burst ratio for the received packet stream; and
changing the processing for the received packet stream as a function of the determined burst ratio.

7. (Original) The method of claim 6 wherein the changing step alters a priority level for the received packet stream.

8. (Original) The method of claim 6 wherein the determining the burst ratio step includes the steps of:

determining that number of packets from the received packet stream that are lost over a time period; and

determining a number of expected packets to be lost for the received packet stream in accordance with a random loss model.

9. (Original) The method of claim 6 wherein the determining the burst ratio step includes the steps of:

determining an average length of observed bursts in the received packet stream over a time interval;

determining an average length of bursts expected for a random loss packet-based network; and

determining the burst ratio from the average length of observed bursts and the average length of bursts for the random loss packet network.

10. (Original) The method of claim 6 wherein the determining the burst ratio step determines the burst ratio from $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n - 1$ was found and β represents a probability of losing packet n if packet $n - 1$ was lost.

11. (Original) A method for use in a packet server, the method comprising the steps of:

receiving a stream of packets; and
determining a burst ratio for the received packet stream; and
associating the determined burst ratio as a figure of merit for the packet server for use in traffic planning.

12. (Original) The method of claim 11 wherein the determining the burst ratio step includes the steps of:

determining that number of packets from the received packet stream that are lost over a time period; and
determining a number of expected packets to be lost for the received packet stream in accordance with a random loss model.

13. (Original) The method of claim 11 wherein the determining the burst ratio step includes the steps of:

determining an average length of observed bursts in the received packet stream over a time interval;
determining an average length of bursts expected for a random loss packet-based network; and
determining the burst ratio from the average length of observed bursts and the average length of bursts for the random loss packet network.

14. (Original) The method of claim 11 wherein the determining the burst ratio step determines the burst ratio from $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n - 1$ was found and β represents a probability of losing packet n if packet $n - 1$ was lost.

15. (Original) A method comprising the steps of:

testing a packet server in such a way as to determine a burst ratio; and
associating the burst ratio as a figure of merit for the packet server.

16. (Original) The method of claim 15 wherein the testing step determines the burst ratio by:

determining that number of packets from a received packet stream that are lost over a time period; and

determining a number of expected packets to be lost for the received packet stream in accordance with a random loss model.

17. (Original) The method of claim 15 wherein the testing step determines the burst ratio by:

determining an average length of observed bursts in a received packet stream over a time interval;

determining an average length of bursts expected for a random loss packet-based network; and

determining the burst ratio from the average length of observed bursts and the average length of bursts for the random loss packet network.

18. (Original) The method of claim 15 wherein the testing step determines the burst ratio $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n-1$ was found and β represents a probability of losing packet n if packet $n-1$ was lost.

19. (Original) A packet server comprising:

a receiver for receiving a stream of packets; and

a processor for (a) determining that number of packets from the received packet stream that are lost over a time period, (b) determining a number of expected packets to be lost for the received packet stream in accordance with a random loss model, and (c) determining a burst ratio from the determined number of packets lost to the number of expected packets to be lost.

20. (Original) The apparatus of claim 19 wherein the processor determines the number of packets lost by determining an average length of observed bursts in the received packet stream over the time interval.

21. (Original) The apparatus of claim 20 wherein the processor determines the number of packets expected to be lost by determining an average length of bursts expected for a random loss packet-based network.

22. (Original) The apparatus of claim 21 wherein the processor determines the burst ratio by a ratio of the average length of observed bursts in the received packet stream over the time interval to the average length of bursts expected for a random loss packet-based network.

23. (Original) A packet server comprising:
a receiver for receiving a stream of packets; and
a processor for a burst ratio for the received packet stream, wherein the burst ratio equals $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n-1$ was found and β represents a probability of losing packet n if packet $n-1$ was lost.

24. (Original) A packet server comprising:
a receiver for receiving a stream of packets; and
a processor for (a) determining a burst ratio for the received packet stream, and (b) changing the processing for the received packet stream as a function of the determined burst ratio.

25. (Original) The apparatus of claim 24 wherein the processor changes the processing by altering a priority level for the received packet stream.

26. (Original) The apparatus of claim 24 wherein the processor determines the burst ratio by determining that number of packets from the received packet stream that are lost over a time period, and determining a number of expected packets to be lost for the received packet stream in accordance with a random loss model.

27. (Original) The apparatus of claim 24 wherein the processor determines the burst ratio by determining an average length of observed bursts in the received packet stream over a time interval, and determining an average length of bursts expected for a

random loss packet-based network, and determining the burst ratio from the average length of observed bursts and the average length of bursts for the random loss packet network.

28.(Original) The apparatus of claim 24 wherein the processor determines the burst ratio from $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n-1$ was found and β represents a probability of losing packet n if packet $n-1$ was lost.

29. (New) A method of processing packets for use in a packet server, the method comprising the steps of:

receiving a stream of packets; and characterized by,
determining a burst ratio for the received packet stream, said burst ratio being a measure of burstiness of a packet network and based on observed packet loss for the received packet stream over a period of time and expected packet loss for the received stream of packets for a random loss packet based network; and

changing the processing for the received packet stream as a function of the determined burst ratio by altering an associated priority level for the received packet stream.

30. (New) The method of claim 29 wherein the changing step alters a priority level for the received packet stream.

31. (New) The method of claim 29 wherein the determining the burst ratio step includes the steps of:

determining that number of packets from the received packet stream that are lost over a time period; and

determining a number of expected packets to be lost for the received packet stream in accordance with a random loss model, packets in a random loss model having an equal probability of loss.

32. (New) The method of claim 29 wherein the determining the burst ratio step includes the steps of:

determining an average length of observed bursts in the received packet stream over a time interval;

determining an average length of bursts expected for a random loss packet-based network, packets in a random loss model having an equal probability of loss; and

determining the burst ratio from the average length of observed bursts and the average length of bursts for the random loss packet network.

33. (New) The method of claim 29 wherein the determining the burst ratio step determines the burst ratio from $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n - 1$ was found and β represents a probability of losing packet n if packet $n - 1$ was lost.

34. (New) A packet server apparatus comprising:

a receiver adapted to receive a stream of packets; and characterized by,

a processor operable to (a) determine a burst ratio for the received packet stream, said burst ratio being a measure of burstiness of a packet network and based on observed packet loss for the received packet stream over a period of time and expected packet loss for the received stream of packets for a random loss packet based network and (b) to change the processing for the received packet stream as a function of the determined burst ratio by altering an associated priority level for the received packet stream.

35. (New) The apparatus of claim 34 wherein the processor changes the processing by altering a priority level for the received packet stream.

36. (New) The apparatus of claim 34 wherein the processor determines the burst ratio by determining that number of packets from the received packet stream that are lost over a time period, and determining a number of expected packets to be lost for the received packet stream in accordance with a random loss model, packets in a random loss model having an equal probability of loss.

37. (New) The apparatus of claim 34 wherein the processor determines the burst ratio by determining an average length of observed bursts in the received packet stream over a time interval, and determining an average length of bursts expected for a random loss packet-based network, packets in a random loss model having an equal probability of loss, and determining the burst ratio from the average length of observed bursts and the average length of bursts for the random loss packet network.

38. (New) The apparatus of claim 34 wherein the processor determines the burst ratio burst ratio from $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n - 1$ was found and β represents a probability of losing packet n if packet $n - 1$ was lost.

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39. (New) A method of processing packets for use in a packet server, the method comprising the steps of:

receiving a stream of packets; and characterized by,
determining a burst ratio for the received packet stream (305, 405), said burst ratio being a measure of burstiness of a packet network and based on observed packet loss and expected packet loss of the received stream of packets;

wherein the determining the burst ratio step includes the steps of:
determining an average length of observed bursts in the received packet stream over a time interval;
determining an average length of bursts expected for a random loss packet-based network, packets in a random loss model having an equal probability of loss; and
determining the burst ratio from the average length of observed bursts and the average length of bursts for the random loss packet network.

40. (New) The method of claim 39, further including the step of signaling other packet servers in the network regarding the determined burst ratio for the received packet stream.

41. (New) The method of claim 39 further including the step of altering a priority

level for the received packet stream.

42. (New) A method of processing packets for use in a packet server, the method comprising the steps of:

receiving a stream of packets; and characterized by,

determining a burst ratio for the received packet stream (305, 405), said burst ratio being a measure of burstiness of a packet network and based on observed packet loss and expected packet loss of the received stream of packets;

wherein the burst ratio is determined from $1 / (1 + \alpha - \beta)$, wherein α is a probability of losing packet n if packet $n - 1$ was found and β represents a probability of losing packet n if packet $n - 1$ was lost.

43. (New) A packet server apparatus comprising:

a receiver adapted to receive a stream of packets; and characterized by,

a processor operable to determine a burst ratio for the received packet stream, said burst ratio being a measure of burstiness of a packet network and based on observed packet loss and expected packet loss of the received stream of packets,

wherein the processor determines the burst ratio by determining an average length of observed bursts in the received packet stream over a time interval, and determining an average length of bursts expected for a random loss packet-based network, packets in a random loss model having an equal probability of loss, and determining the burst ratio from the average length of observed bursts and the average length of bursts for the random loss packet network.

44. (New) The apparatus of Claim 43, wherein the processor is further operable to signal other packet servers in the network regarding the determined burst ratio for the received packet stream.

45. (New) The apparatus of claim 24 wherein the processor may alter a priority level for the received packet stream.